

Daily Dose of Aptitude-1-07-2019

Q1. A and B started a business in partnership investing Rs. 20,000 and Rs. 15,000 respectively. After six months, C joined them with Rs. 20,000. What will be B's share in total profit of Rs. 25,000 earned at the end of 2 years from the starting of the business?

- A. Rs. 7500
- B. Rs. 9000
- C. Rs. 9500
- D. Rs. 10,000

Q2. Bag 1 has three yellow and four blue balls and bag 2 has four yellow and three blue balls. One bag is selected at random and a ball drawn out of it. Find the probability that the ball drawn is yellow.

- A. $\frac{1}{2}$
- B. $\frac{12}{49}$
- C. $\frac{3}{7}$
- D. $\frac{5}{7}$

Q3. Find the weight of a pipe with the following dimensions – exterior diameter is 17 cm, interior diameter is 15 cm and length is 1000 cm. One cubic cm of iron is 0.9 gms.

- A. 14849.53 gms
- B. 12849.53 gms
- C. 18849.53 gms
- D. 18449.53 gms

Q4. Two pipes can fill the cistern in 10hr and 12 hr respectively, while the third empty it in 20hr. If all pipes are opened simultaneously, then the cistern will be filled in

- A. 7.5 hr
- B. 8 hr
- C. 8.5 hr
- D. 10 hr

Q5. Mr. Ram is on tour and he has Rs 360 for his expenses. If he exceeds his tour by 4 days he must cut down daily expenses by Rs 3. The number of days of Mr. Ram's tour programme is

- A. 28 Days
- B. 24 Days
- C. 22 Days
- D. 20 Days

Q6. A train passes a station platform in 36 seconds and a man standing on the platform in 20 seconds. If the speed of the train is 54 km/hr, what is the length of the platform?

- A. 120 m
- B. 240 m
- C. 300 m
- D. None of these

Q7. The present ages of three persons in proportions 4: 7 : 9. Eight years ago, the sum of their ages was 56. Find their present ages (in years).

- A. 8, 20, 28
- B. 16, 28, 36
- C. 20, 35, 45
- D. None of these

Q8. In how many ways can 7 beads be strung into necklace ?

- A. 2520
- B. 5040
- C. 720
- D. 360

Q9. Walking at the rate of 4 kmph a man cover certain distance in 2 hr 45 min. Running at a speed of 16.5 kmph the man will cover the same distance in.

- A. 12 min
- B. 25 min
- C. 40 min
- D. 60 min

Q10. Since $n! = n \times (n-1) \times (n-2) \times \dots \times 1$, then $n!$ can also be written as $n(n-1)!$. So, what is the value of $(100!)/(99!)$?

- A. 110
- B. 9900
- C. 99
- D. 100

Answers and Solutions

Ans 1: Option A

Sol: $A : B : C = (20,000 \times 24) : (15,000 \times 24) : (20,000 \times 18) = 4 : 3 : 3$.

B's share = Rs. $(25000 \times \frac{3}{10}) = \text{Rs. } 7,500$.

Ans 2:option A

Sol:Required probability= $[3C_1/7C_1 + 4C_1/7C_1] \times \frac{1}{2}$
 $=1/2$

Ans 3: C

Sol:First we calculate the volume of the hollow cylinder (pipe)

Volume of Hollow Cylinder = Vol of External Cylinder – Vol of Internal Cylinder = $\pi R^2 h - \pi r^2 h = \pi (R^2 - r^2) h$

$R = 17/2 = 8.5 \text{ cms}$

$r = 15/2 = 7.5 \text{ cms}$

$h = 1000 \text{ cms}$

Vol of Hollow Cylinder = $\pi (R^2 - r^2) h = \pi (72.25 - 64.75) 1000 = 2346.19 \text{ cubic cms}$

Weight = Volume \times density = 18849.53 gms

Ans 4:A

Sol: LCM of 10,12 and 20=60

Efficiency of first pipe=6

Efficiency of second pipe=5

Efficiency of third pipe= -3

Combined efficiency= 6+5-3=8

So,tank will be filled in $60/8=7.5$ hours.=7 hours and 30 minutes.

**Ans 5: D**

Let Ram under takes a tour of x days.

Then, expenses for each day = $360/x$

$360/(x+4)=[360/x]-3$

$x=20$ and -24

Hence, $x= 20 \text{ days}$.

**Ans 6: C**

Sol: Speed = $(54 \times 5/18) \text{ sec} = 15 \text{ m/sec}$.

Length of the train = $(15 \times 20) \text{ m} = 300 \text{ m}$.

Let the length of the platform be x metres.

Then,

$x + 300 / 36 = 15$

$\Rightarrow x + 300 = 540$

$\Rightarrow x = 240 \text{ m}$.

Ans 7: B

Sol:Let their present ages be 4x, 7x and 9x years respectively.

Then, $(4x - 8) + (7x - 8) + (9x - 8) = 56$

$20x = 80$

$x = 4$.

Their present ages are $4x = 16$ years, $7x = 28$ years and $9x = 36$ years respectively.

Ans 8 : D

Sol :

$$\begin{aligned}\text{No of way in Necklace} &= (n-1)!/2 = 6!/2 \\ &= 720/2 = 360\end{aligned}$$

Ans 9: C

Distance = Speed \times time

Here time = 2hr 45 min = $11/4$ hr

Distance = $4 \times 11/4 = 11$ km

New Speed = 16.5 kmph

Therefore time = $DS = 11/16.5 = 40$ min

Ans 10: D

Sol: Since $n! = n \times (n-1) \times (n-2) \times \dots \times 1$, then $n!$ can also be written as $n(n-1)!$. So, what is the value of $(100!)/(99!)$?

Notice that $100! = 100(99!)$.

Hence, $(100!)/(99!) = [100(99!)]/(99!)$ The $99!$ cancels out and the 100 remains.

So, the correct answer is 100

